

IN THE CLAIMS:

The following is a complete listing of the claims, and replaces all earlier listings and all earlier versions.

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1. (Currently Amended) A method for automated classification of a digital image, said method comprising the steps of:
- ~~analysing said analyzing the digital image for the presence of a human face;~~
- ~~determining a size of the located face with respect to a size of said the image; [[and]]~~
- ~~classifying said the digital image according to one of a number of shot types~~
- ~~based on the relative size of said the face with respect to said the image; and~~
- ~~storing the classification of the digital image as metadata associated with the digital image.~~
2. (Currently Amended) A method according to claim 1 wherein ~~said the digital~~ image is classified using a shot type term which provides information about an intention of a photographer ~~whom~~ who captured ~~said the~~ image.
3. (Currently Amended) A method according to claim 1 or 2, wherein ~~said the~~ image is classified as a far-shot if the size of ~~said the~~ located face is substantially less than the size of ~~said the~~ image.

4. (Currently Amended) A method according to claim 1 or 2, wherein said the image is classified as a closeup where the size of said the located face substantially corresponds with the size of said the image.

5. (Currently Amended) A method according to claim 1 or 2, wherein said the image is classified as an extreme close-up where only a part of said the located face appears within said the image.

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6. (Currently Amended) A method according to claim 1 or 2, wherein said classifying step comprises associating a size of said the located face with a set of predetermined thresholds for a size of a human face image.

7. (Currently Amended) A method according to claim 1 or 2, wherein said the image is classified as a far shot if said the image contains a face and the size of said the located face is below a first predetermined threshold compared to the size of said the image.

8. (Currently Amended) A method according to claim 7, wherein said the image is classified as an extreme close up if the size of said the located face is above a second predetermined threshold compared to the size of said the image.

9. (Currently Amended) A method according to claim 8, wherein said the image is classified as a close-up if the size of said the located face is below said the

second predetermined threshold and above a third predetermined threshold compared to the size of ~~said the~~ image.

10. (Currently Amended) A method according to claim 9, wherein ~~said the~~ image is classified is a medium shot if the size of ~~said the~~ located face is greater than ~~said the~~ first predetermined threshold and less than ~~said the~~ third predetermined threshold.

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11. (Currently Amended) A method according to claim 1, wherein said ~~analysing~~ analyzing step comprises interpreting information provided with ~~said the~~ image.

12. (Currently Amended) A method according to claim 11, wherein ~~said the~~ image comprises a frame of a digital video sequence of images.

13. (Currently Amended) A method according to claim 12, wherein ~~said the~~ information is associated with other frames of ~~said the~~ sequence.

14. (Currently Amended) A method according to claim 1, wherein said ~~analysing~~ analyzing step comprises detecting one or more regions of ~~said the~~ image at which skin ~~coloured~~ colored pixels are located in order to locate ~~said the~~ face.

15. (Currently Amended) A method according to claim 1, wherein said ~~determining step~~ includes approximating ~~approximates~~ the size of ~~said the~~ located face by a height and width of a bounding rectangle that encloses ~~said the~~ face.

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16. (Currently Amended) A method for automated classification of a digital image, said method comprising the steps of:

- ~~analysing said~~ analyzing the digital image for the presence of a human face;
- determining a position of the located face with respect to a frame of ~~said the~~ image; [[and]]
- classifying ~~said the digital~~ image according to one of a number of shot types based on the relative position of ~~said the~~ face with respect to ~~said the~~ image frame; and
- storing the classification of the digital image as megadata associated with the digital image.

17. (Currently Amended) A method according to claim 16, wherein ~~said the digital~~ image is classified using a shot type term which provides information about an intention of a photographer ~~whom~~ who captured ~~said the~~ image.

18. (Currently Amended) A method according to claim 16 or 17, wherein ~~said the~~ image is classified as a highshot if the position of ~~said the~~ located face is substantially toward a bottom of ~~said the~~ image frame.

19. (Currently Amended) A method according to claim 16 or 17, wherein ~~said the~~ image is classified as a eyelevel shot where the position of ~~said the~~ located face substantially corresponds with a ~~centre~~ center of ~~said the~~ image frame.

20. (Currently Amended) A method according to claim 16 or 17,  
wherein ~~said~~ the image is classified as a low shot where the position of ~~said~~ the located face  
is substantially toward a top of ~~said~~ the image frame.

21. (Currently Amended) A method according to claim 16 or 17,  
wherein ~~said~~ the image is classified as a left shot where the position of ~~said~~ the located face  
is substantially toward a right hand side of ~~said~~ the image frame.

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22. (Currently Amended) A method according to claim 16 or 17,  
wherein ~~said~~ the image is classified as a right shot where the position of ~~said~~ the located  
face is substantially toward a left hand side of ~~said~~ the image frame.

23. (Currently Amended) A method according to claim 16 or 17,  
wherein ~~said~~ the image is classified as a low shot where the position of ~~said~~ the located face  
is substantially toward a top of ~~said~~ the image frame.

24. (Currently Amended) A method according to claim 16, wherein said  
analysing analyzing step comprises interpreting information provided with ~~said~~ the image.

25. (Currently Amended) A method according to claim 16, wherein ~~said~~  
the image comprises a frame of a digital video sequence of images.

26. (Currently Amended) A method according to claim 25, wherein said the information is associated with other frames of said the sequence.

27. (Currently Amended) A method according to claim ~~[[1]]~~ 16, further comprising the steps of:

detecting an edge within said image;

determining an angle of inclination between said edge and an axis of said the image frame; and

classifying said the image as a Dutch shot where said the angle of inclination is between predetermined angles of inclination.

28. (Currently Amended) A method according to claim 27, wherein said the predetermined angles of inclination comprise 30 and 60 degrees.

29. (Currently Amended) A method according to claim 16, further comprising the steps of:

~~analysing said~~ analyzing the image for the presence of a predetermined non-human component;

assessing said the predetermined component with respect to at least one further ~~criteria~~ criterion; and

where ~~said criteria~~ that further criterion is met, classifying said the image based upon the presence of said the predetermined component.

30. (Currently Amended) A method according to claim 29, wherein said the predetermined component comprises a ~~colour~~ color of a distinct region of said the image.

31. (Currently Amended) A method according to claim 29, wherein said criteria the criterion comprises at least a relative motion of said the predetermined component within said the image.

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32. (Currently Amended) A method of processing an input sequence of digital images, said method comprising the steps of:

classifying each said digital image of said the sequence using a method according to claim 1; and

editing said the sequence using said the classification to form an output sequence of digital images.

33. (Currently Amended) A method according to claim ~~[[31]]~~ 32, wherein said editing step comprises applying an edit function to each said the image of said the input sequence, those ones of said the images not satisfying said the edit function being omitted from said the output sequence.

34. (Currently Amended) A method according to claim ~~[[31]]~~ 32, wherein said editing step comprises establishing an editing template for said the sequence,

each ~~said the~~ edit function forming a component of ~~said the~~ template and corresponding to one of ~~said the~~ image classifications.

35. (Currently Amended) A method according to claim 33, wherein ~~said the~~ edit function comprises at least one effect for application to the image, ~~said the~~ effect being selected from the group consisting of visual effects and audible effects.

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36. (Currently Amended) A method according to claim 35, wherein ~~said the~~ visual effects are selected from the group consisting of reproduction speed variation, zooming, blurring, and ~~colour~~ color variation.

37. (Currently Amended) ~~Apparatus~~ An apparatus for automated classification of a digital image, ~~said apparatus~~ comprising:

- means for ~~analysing~~ ~~said~~ analyzing the digital image for the presence of a human face;
- means for determining a size of the located face with respect to a size of ~~said the~~ image; and
- means for classifying ~~said the digital~~ image according to one of a number of shot types based on the relative size of ~~said the~~ face with respect to ~~said the~~ image; and
- means for storing the classification of the digital image as metadata associated with the digital image.



38. (Currently Amended) ~~Apparatus~~ An apparatus according to claim 37,  
wherein:

- (i) ~~said the~~ image is classified as a far-shot if the size of ~~said the~~ located face is substantially less than the size of ~~said the~~ image;
- (ii) ~~said the~~ image is classified as a close-up where the size of ~~said the~~ located face substantially corresponds with the size of ~~said the~~ image; and
- (iii) ~~said the~~ image is classified as an extreme close-up where only a part of ~~said the~~ located face appears within ~~said the~~ image.

39. (Currently Amended) ~~Apparatus~~ An apparatus according to claim 37,  
wherein said means for classifying associates a size of ~~said the~~ located face with a set of predetermined thresholds for a size of a human face image.

40. (Currently Amended) ~~Apparatus~~ An apparatus according to claim 39,  
wherein:

- (i) ~~said the~~ image is classified as a far shot if ~~said the~~ image contains a face and the size of ~~said the~~ located face is below a first predetermined threshold compared to the size of ~~said the~~ image;
- (ii) ~~said the~~ image is classified as an extreme close up if the size of ~~said the~~ located face is above a second predetermined threshold compared to the size of ~~said the~~ image;

(iii) ~~said the~~ image is classified as a close-up if the size of ~~said the~~ located face is below ~~said the~~ second predetermined threshold and above a third predetermined threshold compared to the size of ~~said the~~ image; and

(iv) ~~said the~~ image is classified is a medium shot if the size of ~~said the~~ located face is greater than ~~said the~~ first predetermined threshold and less than ~~said the~~ third predetermined threshold.

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41. (Currently Amended) ~~Apparatus~~ An apparatus according to claim 37, wherein said ~~analysing~~ analyzing comprises interpreting information provided with ~~said the~~ image.

42. (Currently Amended) ~~Apparatus~~ An apparatus according to claim 41, wherein ~~said the~~ image comprises a frame of a digital video sequence of images.

43. (Currently Amended) ~~Apparatus~~ An apparatus according to claim 41, wherein said means for ~~analysing~~ analyzing detects one or more regions of ~~said the~~ image at which skin ~~coloured~~ colored pixels are located in order to locate ~~said the~~ face.

44. (Currently Amended) ~~Apparatus~~ An apparatus according to claim 43, wherein said means for determining approximates the size of ~~said the~~ located face by a height and width of a bounding rectangle that encloses ~~said the~~ face.

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45. (Currently Amended) ~~Apparatus~~ An apparatus for automated classification of a digital image, said apparatus comprising:

- means for ~~analysing said~~ analyzing the digital image for the presence of a human face;
- means for determining a position of the located face with respect to a frame of ~~said the~~ the image; and
- means for classifying ~~said the digital~~ the digital image according to one of a number of shot types based on the relative position of ~~said the~~ the face with respect to ~~said the~~ the image frame; and
- means for storing the classification of the digital image as metadata associated with the digital image.

46. (Currently Amended) ~~Apparatus~~ An apparatus according to claim 45, wherein:

- (i) ~~said the~~ the image is classified as a high-shot if the position of ~~said the~~ the located face is substantially toward a bottom of ~~said the~~ the image frame;
- (ii) ~~said the~~ the image is classified as a eye-level shot where the position of ~~said the~~ the face substantially corresponds with a ~~centre~~ center of ~~said the~~ the image frame;
- (iii) ~~said the~~ the image is classified as a low shot where the position of ~~said the~~ the located face is substantially toward a top of ~~said the~~ the image frame;
- (iv) ~~said the~~ the image is classified as a left shot where the position of ~~said the~~ the located face is substantially toward a right hand side of ~~said the~~ the image frame;

(v) ~~said the~~ image is classified as a right shot where the position of ~~said~~ the located face is substantially toward a left hand side of ~~said the~~ image frame;

(vi) ~~said the~~ image is classified as a low shot where the position of ~~said~~ the located face is substantially toward a top of ~~said the~~ image frame.

47. (Currently Amended) ~~Apparatus~~ An apparatus according to claim 46, wherein said ~~analysing~~ analyzing comprises interpreting information provided with ~~said the~~ image.

48. (Currently Amended) ~~Apparatus~~ An apparatus according to claim 46, wherein ~~said the~~ image comprises a frame of a digital video sequence of images.

49. (Currently Amended) ~~Apparatus~~ An apparatus according to claim 48, wherein ~~said the~~ information is associated with other frames of ~~said the~~ sequence.

50. (Currently Amended) ~~Apparatus~~ An apparatus according to claim [[37]] 45, further comprising:

means for detecting an edge within ~~said the~~ image;

means for determining an angle of inclination between ~~said the~~ edge and an axis of ~~said the~~ image frame; and

means for classifying ~~said the~~ image as a Dutch shot where ~~said the~~ angle of inclination is between predetermined angles of inclination.

51. (Currently Amended) Apparatus An apparatus according to claim 37,  
further comprising:

means for ~~analysing said~~ analyzing the image for the presence of a  
predetermined non-human component;

means for assessing ~~said the~~ predetermined component with respect to at  
least one further ~~criteria~~ criterion; and

where ~~said criteria~~ that further criterion is met, classifying ~~said the~~ image  
based upon the presence of ~~said the~~ predetermined component.

52. (Currently Amended) Apparatus An apparatus according to claim 51,  
wherein ~~said the~~ predetermined component comprises a ~~colour~~ color of a distinct region of  
~~said the~~ image.

53. (Currently Amended) Apparatus An apparatus according to claim 51,  
wherein ~~said criteria~~ the further criterion comprises at least a relative motion of ~~said the~~  
predetermined component within ~~said the~~ image.

54. (Currently Amended) Apparatus An apparatus for processing an  
image a sequence of digital images, said apparatus comprising:  
classification apparatus according to claim 37 for determining a shot type  
classification for each digital image of ~~said the~~ sequence; and  
means for editing ~~said the~~ sequence using ~~said the~~ shot type classification to  
form an output sequence of digital images.

55. (Currently Amended) ~~Apparatus~~ An apparatus according to claim 54, wherein said means for editing comprises applying an edit function to each ~~said the~~ image of ~~said the~~ input sequence, those ones of ~~said the~~ images not satisfying ~~said the~~ edit function being omitted from ~~said the~~ output sequence.

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56. (Currently Amended) ~~Apparatus~~ An apparatus according to claim 55, wherein ~~said the~~ editing comprises establishing an editing template for ~~said the~~ sequence, each ~~said the~~ edit function forming a component of ~~said the~~ template and corresponding to one of ~~said the~~ image classifications.

57. (Currently Amended) ~~Apparatus~~ An apparatus according to claim 56, wherein ~~said the~~ edit function comprises at least one effect for application to the image, ~~said the~~ effect being selected from the group consisting of visual effects and audible effects.

58. (Currently Amended) ~~Apparatus~~ An apparatus according to claim 57, wherein ~~said the~~ visual effects are selected from the group consisting of reproduction speed variation, zooming, blurring, and ~~colour~~ color variation.

59. (Currently Amended) A computer readable medium incorporating a computer program product operable upon computer apparatus for automated classification of a digital image, said computer program product comprising:

code for ~~analysing~~ ~~said~~ analyzing the digital image for the presence of a human face;

code for determining a size of the located face with respect to a size of said the image; and

code for classifying said the digital image according to one of a number of shot types based on the relative size of said the face with respect to said the image; and

code for storing the classification of the digital image as metadata associated with the digital image.

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60. (Currently Amended) A computer readable medium according to claim 59, wherein:

(i) said the image is classified as a far-shot if the size of said the located face is substantially less than the size of said the image;

(ii) said the image is classified as a close-up where the size of said the located face substantially corresponds with the size of said the image; and

(iii) said the image is classified as an extreme close-up where only a part of said the located face appears within said the image.

61. (Currently Amended) A computer readable medium according to claim 60, wherein said classifying comprises associating a size of said the located face with a set of predetermined thresholds for a size of a human face image.

62. (Currently Amended) A computer readable medium according to claim 61, wherein:

(i) said the image is classified as a far shot if said the image contains a face and the size of said the located face is below a first predetermined threshold compared to the size of said the image;

(ii) said the image is classified as an extreme close up if the size of said the located face is above a second predetermined threshold compared to the size of said the image;

(iii) said the image is classified as a close-up if the size of said the located face is below said the second predetermined threshold and above a third predetermined threshold compared to the size of said the image; and

(iv) said the image is classified as a medium shot if the size of said the located face is greater than said the first predetermined threshold and less than said the third predetermined threshold.

63. (Currently Amended) A computer readable medium according to claim 59, wherein said analysing analyzing comprises interpreting information provided with said the image.

64. (Currently Amended) A computer readable medium according to claim 63, wherein said the image comprises a frame of a digital video sequence of images.

65. (Currently Amended) A computer readable medium according to claim 64, wherein said the information is associated with other frames of said the sequence.



66. (Currently Amended) A computer readable medium according to claim 59, wherein said ~~analysing~~ analyzing comprises detecting one or more regions of ~~said~~ the image at which skin ~~coloured~~ colored pixels are located in order to locate ~~said~~ the face.

67. (Currently Amended) A computer readable medium according to claim 59, wherein said determining approximates the size of ~~said~~ the located face by a height and width of a bounding rectangle that encloses ~~said~~ the face.

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68. (Currently Amended) A computer readable medium according to claim 59, further comprising:

code for ~~analysing~~ analyzing ~~said~~ the image for the presence of a human face;

code for determining a position of the located face with respect to a frame of ~~said~~ the image; and

code for classifying ~~said~~ the image based on the relative position of ~~said~~ the face with respect to ~~said~~ the image frame.

69. (Currently Amended) A computer readable medium according to claim 68, wherein:

(i) ~~said~~ the image is classified as a high-shot if the position of ~~said~~ the located face is substantially toward a bottom of ~~said~~ the image frame;

(ii) ~~said~~ the image is classified as a eye-level shot where the position of ~~said~~ the face substantially corresponds with a centre center of ~~said~~ the image frame;

(iii) said the image is classified as a low shot where the position of said the located face is substantially toward a top of said the image frame;

(iv) said the image is classified as a left shot where the position of said the located face is substantially toward a right hand side of said the image frame;

(v) said the image is classified as a right shot where the position of said the located face is substantially toward a left hand side of said the image frame; and

(vi) said the image is classified as a low shot where the position of said the located face is substantially toward a top of said the image frame.

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70. (Currently Amended) A computer readable medium according to claim 69, wherein said analysing analyzing comprises interpreting information provided with said the image.

71. (Currently Amended) A computer readable medium according to claim 69, wherein said the image comprises a frame of a digital video sequence of images.

72. (Currently Amended) A computer readable medium according to claim 71, wherein said the information is associated with other frames of said the sequence.

73. (Currently Amended) A computer readable medium according to claim 72, further comprising:

code for detecting an edge within said the image;

code for determining an angle of inclination between ~~said~~ the edge and an axis of ~~said~~ the image frame; and

code for classifying ~~said~~ the image as a Dutch shot where ~~said~~ the angle of inclination is between predetermined angles of inclination.

74. (Currently Amended) A computer readable medium according to claim 73, wherein ~~said~~ the predetermined angles of inclination comprise 30 and 60 degrees.

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75. (Currently Amended) A computer readable medium according to claim 74, further comprising:

code for ~~analysing~~ ~~said~~ analyzing the image for the presence of a predetermined non-human component;

code for assessing ~~said~~ the predetermined component with respect to at least one further ~~criteria~~ criterion; and

where ~~said~~ criteria ~~that further criterion~~ is met, classifying ~~said~~ the image based upon the presence of ~~said~~ the predetermined component.

76. (Currently Amended) A computer readable medium according to claim 75, wherein ~~said~~ the predetermined component comprises a ~~colour~~ color of a distinct region of ~~said~~ the image.

77. (Currently Amended) A computer readable medium according to claim 76, wherein ~~said criteria~~ the criterion comprises at least a relative motion of ~~said the~~ predetermined component within ~~said the~~ image.

78. (Currently Amended) A computer readable medium incorporating a computer program product for processing an input sequence of images, comprising:

code for classifying each ~~said the~~ image of ~~said the~~ sequence using the computer program product of claim 77; and

code for editing ~~said the~~ sequence using ~~said the~~ classification to form an output sequence of images.

79. (Currently Amended) A computer readable medium according to claim 78, wherein said editing comprises applying an edit function to each ~~said the~~ image of ~~said the~~ input sequence, those ones of ~~said the~~ images not satisfying ~~said the~~ edit function being omitted from ~~said the~~ output sequence.

80. (Currently Amended) A computer readable medium according to claim 79, wherein said editing comprises establishing an editing template for ~~said the~~ sequence, each ~~said the~~ edit function forming a component of ~~said the~~ template and corresponding to one of ~~said the~~ image classifications.

81. (Currently Amended) A computer readable medium according to claim 80, wherein ~~said the~~ edit function comprises at least one effect for application to the

image, ~~said~~ the effect being selected from the group consisting of visual effects and audible effects.

82. (Currently Amended) A computer readable medium according to claim 81, wherein ~~said~~ the visual effects are selected from the group consisting of reproduction speed variation, zooming, blurring, and ~~colour~~ color variation.

83. (Currently Amended) An edited sequence of images formed through implementation of a series of images according to any one of claims 1, 16, 37, 45 and 59.